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CENTRAL INTELLIGENCE AGENCY

REPORT

## INFORMATION REPORT

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General Situation Report

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1. Manufacture of Aluminum

- a. Aluminum electrolysis has risen to an annual rate of 3,000 tons, and in the course of September will rise to 15,000 tons. A notable breakdown has occurred in the supply of direct current because of a short circuit in the transformer plant. Since the target date for the start of operations at this plant was excessively advanced, the windings of the transformers were made from round, instead of flat copper.
- b. The supply of alumina (Tonerde) is, however, a much more serious problem; supplies are sufficient to keep the aluminum electrolysis plant in operation only until 2 September. It was hoped that additional supplies would arrive to enable the plant to continue operating until 15 September 1951, but no supplies are scheduled after that. The DDR has limited itself to negotiating for the supply of bauxite, of which 15,000 tons are due from Hungary in November, but as there is no means within the DDR for converting bauxite into alumina, negotiations have been started for the exchange of bauxite for alumina.

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The production of alumina by the Bayer process will not take place in the DDR. The "Spekter" process, a so-called "combined" process, which was experimented with unsuccessfully between 1918 and 1923, will be used instead. The latter process had been abandoned because of difficulties in making suitable apparatus, but it has now been found that "Igurit" filters have proved the most successful method of drawing off (Absaugung) the salicylic acid solution. The combined Spekter and Benjakoff process will be used in Bitterfeld, but the experiments at present being conducted may last from two to two and one-half years. The development of "Igurit" apparatus has been entrusted to Dr. Bopp and Herr Scheibe. Drs. Schulz and Bauer are experimenting on the "combined" process.

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2. Magnesium Electrolysis

- a. A magnesium electrolysis plant is to be erected with all possible speed. The same building will be used as was used for the production of metallic calcium. The process to be used has not yet been finally decided upon, but Dr. E. Bauer has proposed that magnesium oxide be produced from Teutschenthaler and/or Stassfurter lye\*, but without chlorination. It is hoped that, by the use of a "Tauchbrenner", it will be possible to concentrate the lye sufficiently. The electrolysis itself will take place in baths of 20,000 to 30,000 amperes.
- b. The complete plant must, according to a Soviet Control Commission (SCC) order dated 18 August 1951, be in operation by July 1952 and the following deliveries of magnesium, probably to the USSR, are scheduled:

1952 - 2,250 tons  
 1953 - 3,500 tons  
 1954 - 4,500 tons

3. Barium Chloride

Barium chloride is no longer manufactured by the reduction and direct chlorination of heavy spar (barium sulfate), but by dissolving barium carbonate in salicylic acid. The production of barium carbonate takes place by the carbonization of barium sulfate with sodium carbonate at a higher temperature and under pressure. This process was worked out by Dr. Heymann over the period 1919 to 1950.

4. Metallic Sodium

The production of metallic sodium has still not been started, although the DDR requires approximately 80 to 100 tons per month. There are two experimental baths with a monthly output of 4 to 4.5 tons, but it has not yet been decided whether to extend these to produce on a commercial scale.

5. Metallic Calcium

There is no sign that the production of metallic calcium will be resumed. The plant for the electrolysis of calcium copper has been dismantled. The crude calcium electrolysis plant is about to be dismantled, since the space is required for magnesium electrolysis. The calcium distillation plant will remain for the time being and will be kept in working order.

6. Formic Acid and Calcium Formate

The production of formic acid and calcium formate will start in mid-September using three charges (Ansätze) and a pressure of 60 atmospheres. The choice of 60 atmospheres was made because a 60-atmosphere compressor was available. It has been found that excellent decomposition (Umsatzung) occurs at this pressure, and permits the production of 94 - 95 per cent formic acid. Experiments with the use of carbon monoxide for the phosphorus furnaces for the manufacture of formic acid have also been successful. The monthly output will be 250 tons of calcium formate and 150 tons of formic acid.

7. Chlorine

The situation with regard to chlorine has undergone a considerable change in recent months. Whereas, at the end of 1950, there was a slight shortage of chlorine because of the very heavy demands of the Aue area, it is estimated that chlorine now goes to waste at Bitterfeld at the rate of 50 to 60 tons per day. The DDR has hitherto been opposed to the export of chlorine

because it feared that the chlorine would be used for the manufacture of ethylene oxide.

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8. Connecting Electrodes (Verbindungselektroden)

The speedy extension of the welding electrode plant at Bitterfeld at Russian instigation at the end of 1950 has been shown to have been a major blunder. The GOC had ordered Bitterfeld to extend its monthly capacity to between 250 and 300 tons as a result of difficulties which were being experienced by the Kjellberg Elektroden und Maschinen GmbH (VVB WIM), Finsterwalde, in maintaining the necessary quality. Kjellberg is now delivering electrodes again, however.

9. Titanium Dioxide

The initial difficulties experienced in the production of titanium dioxide by the salicylic acid process have now been overcome. Whereas the capacity of the new plant was originally estimated at 80 tons per month, an output of 100 to 110 tons is now being attained without difficulty. The procurement of raw materials is, however, very difficult, but Bitterfeld has now succeeded in obtaining 2,000 tons of ilmenite from Czechoslovakia. This will cover its requirements until May 1952. The production of titanium dioxide is to be extended in 1952, since the DDR's requirements still exceed the production.

10. Iron Carbonyl

Iron carbonyl is not being produced at Bitterfeld and the plant has proposed that the Chemiewerk Leuna should be entrusted with the production of iron carbonyl and/or nickel carbonyl, since the latter plant has more experience in high-pressure processes.

11. Nitrogen

- a. The production of ammonium nitrate and calcium ammonium nitrate continues at the same level as hitherto. The absorption tower for the absorption of nitrous (sic; nitrous?) gases resulting from the production of oxalic acid has been experimentally equipped with a jet-port (Verdüsung) and the use of Raschig rings has been deliberately dispensed with. The pilot plant is working better than the plants usually equipped with Raschig rings, and the conversion of the whole nitrogen plant in this way is under consideration. It is hoped thereby to raise the absorption capacity by 15 to 20 per cent and simultaneously to reduce the alkaline fraction.
- b. The combustion (Verbrennung) plant is working at maximum capacity producing 60 tons per day. Should the Leunawerke deliver additional quantities of ammonia, it will be necessary to expand the plant. The combined combustion by means of platinum mesh and cobalt-aluminum contacts continues to work well and has helped to overcome difficulties encountered in procuring platinum.

12. Polyvinyl Chloride

- a. The production of polyvinyl chloride continues at the monthly rate of 500 tons. The largest part of this (400 tons) is further processed at Bitterfeld. The output of P.C. has been raised and is now running at 80 or 90 tons per month. A rotating dryer is not used; drying takes place in a re-enamelled polymerization autoclave. The capacity of this dryer is not as high as it would be with a rotating autoclave, but circumvents the mechanical difficulty of rotation.

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- b. The existing stock of polyvinyl chloride has been exhausted by releases for East-West trade. It is hoped in the future to be able to barter polyvinyl chloride for alumina.
- c. The large rolling mill set up at Bitterfeld by Eichler & Co. has not yet worked completely satisfactorily. It is hoped that these difficulties, which were primarily due to the bedding (Lagerung) of the mill have now been overcome.

13. Lead Bearing-Metal

The production of lead bearing-metal is still in the experimental stage.

14. Methylene Chloride

The process suggested by Dr. Bauer has not yet proved workable. Negligible quantities of methylene chloride are produced experimentally.

15. Synthetic Mica

Experiments in the development of a synthetic mica are being conducted by Dr. Espig, in order to be able to dispense with the import of natural mica from the West which amounts to DM 1,000,000 annually. Similar experiments in the manufacture of synthetic asbestos had met with some success.

16. Selenium

No selenium is manufactured at Bitterfeld.

17. Shortages of Materials

- a. Although the Elektrochemisches Kombinat has managed fairly successfully in the past, the supply of replacement equipment to other SAGs, particularly the Leunawerke, is almost hopeless. The principal bottleneck is in seamless tubing; sheets are still available to some extent. The supply of alloy steel is also causing great difficulties. The USSR has stated that the DDR cannot expect any deliveries of seamless steel tubing in 1952. Attempts are being made to overcome this difficulty by the manufacture of V<sub>2</sub>A steel in the DDR itself. It is believed that the SAG Marten, formerly Oswald Kunsch, Silbitz, near Zeitz, is able to produce V<sub>2</sub>A ingots. These would then be rolled at Hettstedt.
- b. In the future, platinum and platinum-rhodium mesh are to be produced in the DDR itself, by the Stanz- und Drahtwebwerke Heerbrandt Raguhn. The wire itself will be produced by the firm Aftowelo, Berlin, Neuer Dahn-hofstrasse.\*\*\* This will be re-drawn by Hettstedt,\*\*\* from 1 mm. to 0.06 mm. in diameter. The Hettstedt firm will then ship the wire to the Heerbrandt firm for weaving.

18. General

- a. Dr. Walther Heyder, Acting General Manager, and Dr. Wolfrang Schiller, Chief Engineer, were summoned to Filmfabrik Wolfen recently where they were presented with a BMW car as a premium. In addition all heads of departments were presented with motorcycles, most of which have already been sold. The workers at the Elektrochemisches Kombinat Bitterfeld were very critical of these gifts, and the BGL (Betriebs- Gewerkschafts-Leitung) found it necessary to organize a spontaneous congratulatory message by a delegation representing all sections of the plant. Since then the hostility of the workers has fallen off noticeably.

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- b. The salaries of the technical and managerial staff have been greatly increased, and the salary differentials between the various directors have also been increased. Whereas the General Manager previously received DM 2,000 per month, of which 45 per cent was deducted for taxes, he now receives DM 4,000, with a 20 per cent tax deduction. The Chief Engineer receives DM 3,500, whereas the Commercial Director, the Cultural Director and the Personnel Director receive DM 1,800 to DM 2,000.

19. Personalities

- a. The post of Russian Chief Engineer, vacant since the departure of Starostin, has now been filled by a civilian who arrived recently. His name is not known.
- b. The Office of Departmental Engineers, previously directly subordinate to the Russian Chief Engineer, has now virtually been dissolved.
- c. Schauerhammer, the head of the Interzonal Office, has been dismissed
- d. The Commercial Director, Karl Müller, has recently become markedly critical of the Russians, and attempts have been made to remove him. This has, however, not yet been possible since his successor-designate has a criminal record.

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- \* Comment: Lye probably produced at Kaliwerk Krügershall at Teutchen-thal or Kaliwerk Stassfurt.

Comment: Not further identified. The headquarters of SAG "Avtovelo" are in Berlin-Weissensee, Berliner Allee 107/110. The only firm listed as belonging to this SAG in Berlin is the Werk Linse, Berlin-Friedrichshagen, Wilhelm Strasse 4/9.

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- \*\*\* Comment: Possibly the Walzwerk für Buntmetalle, Hettstedt (SAG Marten).

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